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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/745,430	12/26/2000	Kenichi Kusaka	PM 276469 SPO-2432	1555
909	7590	11/10/2003	EXAMINER	
PILLSBURY WINTHROP, LLP			NGUYEN, THONG Q	
P.O. BOX 10500			ART UNIT	
MCLEAN, VA 22102			PAPER NUMBER	
			2872	

DATE MAILED: 11/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/745,430

Applicant(s)

KUSAKA, KENICHI

Examiner

Thong Q. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 August 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,4,6,7,9,12-24 and 26-28 is/are pending in the application.
- 4a) Of the above claim(s) 3,4,9 and 12-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 6-7 and 26-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The present Office action is made in response to the amendment (Paper No. 14) filed on 8/21/2003. It is noted that in the amendment, applicant has canceled claims 2, 5, 8, 10-11 and 25, and added a new set of claims, i.e., claims 26-28, into the application. A review of the device as claimed in newly-added claims 26-28 have resulted that it is similar in scope as the device of claim 1, thus, claims 26-28 are examined with the device of the elected claims 1 and 6-7. Claims 3-4, 9 and 12-24 are still withdrawn from examination as directed to non-elected species/invention(s).

Specification

2. The lengthy specification which is amended by the amendment has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Suggestions

3. The following corrections are suggested to the claim(s).

In claim 26: the phrase thereof "an image side of the first objective lens and the second objective lens" (lines 13-14) should be changed to -- an image side of the first objective lens or the second objective lens --. Applicant should note that since there is only one objective lens, i.e., either the first objective lens or the second objective lens, is in the optical path of the microscope; therefore, the recitation that an image side of the first objective lens and the second objective lens as claimed is unclear.

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1, 6 and 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otaki (Japanese reference No. 11-218679, of record).

Otaki discloses a differential interference microscope. In the embodiment shown in figure 4, the microscope comprises the following elements: 1) a light source (1), a polarizer (P) for converting a ray of light emitted from the light source into linearly polarized light, a Wollaston prism (B2) for separating the linearly polarized light into two linearly polarized components which vibrate perpendicular to each other and travel at a slight separate angle wherein the prism possesses a position of localized fringes; a lens system having a lens element (6) for guiding polarized light to a sample (4) and a lens element (3) for guiding light from the sample to a second Wollaston prism (B1) which combines the two polarized components on an identical path after passing through the lens (3); an analyzer (A) for converging light into linearly polarized light and for providing an image (5) of the sample to be viewed by an observer via an eyepiece lens element. It is noted that all of the mentioned optical elements are arranged in that order along the light path from the light source (1) to the image (5). Otaki also discloses that the polarization member (B1) is rotated about a rotational axis for the purpose of adjusting the image quality as well as for correction the image aberrations/shears due to the different in focal lengths of the objective lenses used in the system. While Otaki does not explicitly state that tilting of the prism (B1) is adjusted based on the use of a

particular objective lens; however, it would have been obvious to one skilled in the art to tilt the prism (B1) in a range of suitable angle with respect to the optical axis of the microscope to correct the image aberrations/shears to obtain the best quality of the image for a particular objective lens being used/inserted into the optical path of the microscope.

6. Claims 1, 6 and 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi in view of Otaki (both of record).

Hayashi discloses a differential interference microscope. In the embodiment described in columns 3-5 and shown in figure 4, the microscope comprises the following elements: 1) a light source (1), a polarizer (2) for converting a ray of light emitted from the light source into linearly polarized light, a Wollaston prism (9) for separating the linearly polarized light into two linearly polarized components which vibrate perpendicular to each other and travel at a slight separate angle wherein the prism possesses a position of localized fringes; a lens system having a lens element (4) for guiding polarized light to a sample (M) and a lens element (5) for guiding light from the sample to a second Wollaston prism (10) which combines the two polarized components on an identical path after passing through the lens (5); an analyzer (7) for converging light into linearly polarized light and an eyepiece lens element (8) for observing the image of the sample (M). It is noted that all of the mentioned optical elements are arranged in that order along the light path from the light source (1) to the eyepiece lens (8). The only feature missing from that embodiment is that Hayashi does not disclose that at least one Wollaston prism is able to rotate with respect to the

optical axis of the microscope for the purpose of varying the distance from the prism to the position of localized fringes. However, Hayashi indeed teach such a rotation of the prism with respect to the optical axis as can be seen in column 6 and shown in figure 6. It is noted that the rotation of the prism as stated by Hayashi will change the localized distance of the differential image. Further, the rotation of at least one prism in a microscope system is also suggested to one skilled in the art as can be seen in the system provided by Otaki. See pages 5-6 and fig. 6. Otaki also discloses that the polarization member (B1) is rotated about a rotational axis for the purpose of adjusting the image quality as well as for correction the image aberrations/shears due to the different in focal lengths of the objective lenses used in the system. While Otaki does not explicitly state that tilting of the prism (B1) is adjusted based on the use of a particular objective lens; however, it would have been obvious to one skilled in the art to tilt the prism (B1) in a range of suitable angle with respect to the optical axis of the microscope to correct the image aberrations/shears to obtain the best quality of the image for a particular objective lens being used/inserted into the optical path of the microscope. Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the microscope having a transmitted illumination provided by Hayashi by rotating at least one prism as suggested by himself and Otaki for the purpose of varying the distance between the rating prism and its localized fringed position for the purpose of improving the image quality.

7. Claims 7 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi in view of Otaki (both of record).

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Hayashi discloses a differential interference microscope. In the embodiment described in columns 3-5 and shown in figure 4, the microscope comprises the following elements: 1) a light source (1), a polarizer (2) for converting a ray of light emitted from the light source into linearly polarized light, a Wollaston prism (9) for separating the linearly polarized light into two linearly polarized components which vibrate perpendicular to each other and travel at a slight separate angle wherein the prism possesses a position of localized fringes; a lens system having a lens element (4) for guiding polarized light to a sample (M) and a lens element (5) for guiding light from the sample to a second Wollaston prism (10) which combines the two polarized components on an identical path after passing through the lens (5); an analyzer (7) for converging light into linearly polarized light and an eyepiece lens element (8) for observing the image of the sample (M). It is noted that all of the mentioned optical elements are arranged in that order along the light path from the light source (1) to the eyepiece lens (8). There are only two things missing from that embodiment is that Hayashi does not disclose that at least one Wollaston prism is able to rotate with respect to the optical axis of the microscope for the purpose of varying the distance from the prism to the position of localized fringes, and the product between the thickness of the prism and the angle of rotation of the prism is smaller than a particular value.

Regarding the rotation of the prism, it is noted that Hayashi indeed teaches such a rotation of the prism with respect to the optical axis as can be seen in column 6 and shown in figure 6. The rotation of the prism as stated by Hayashi will change the

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localized distance of the differential image. Further, the rotation of at least one prism in a microscope system is also suggested to one skilled in the art as can be seen in the system provided by Otaki. See pages 5-6 and fig. 6. Otaki also discloses that the polarization member (B1) is rotated about a rotational axis for the purpose of adjusting the image quality as well as for correction the image aberrations/shears due to the different in focal lengths of the objective lenses used in the system. While Otaki does not explicitly state that tilting of the prism (B1) is adjusted based on the use of a particular objective lens; however, it would have been obvious to one skilled in the art to tilt the prism (B1) in a range of suitable angle with respect to the optical axis of the microscope to correct the image aberrations/shears to obtain the best quality of the image for a particular objective lens being used/inserted into the optical path of the microscope

While Hayashi and Otaki do not clearly state that the product between the thickness of the prism and the rotating angle is smaller than 12 mm; however, such a feature is inherently disclosed by the structure of the system claimed. The support for that conclusion is as follow: First, it is well known that the thickness of the prism is about 1 mm or at most 2 mm (see also the present specification at pages 2-3); and second, the rotation of a prism about the optical axis of a system is relatively small; therefore, it is inherently that the product of the thickness of the prism, i.e., 1-2 mm, and the rotating angle of the prism, i.e., in the range of 10 degrees, is in the range claimed.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the microscope having a transmitted illumination provided

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by Hayashi by rotating at least one prism as suggested by himself and Otaki for the purpose of varying the distance between the rating prism and its localized fringed position for the purpose of improving the image quality.

Response to Arguments

8. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

9. Applicant's arguments filed on 8/21/03 have been fully considered but they are not persuasive.

Applicant argued that Otaki fails to disclose the polarizing member changes its tilt attitude while its position along the optical axis remains unchanged. In order to support for his conclusion, applicant has filed a translation of some sections of the Otaki's Japanese patent. However, the Examiner cannot find in the translation any description to support for the applicant's conclusion, and further, the subject/feature referred to by the applicant has not never recited in the claims.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

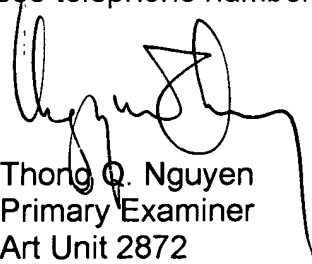
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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thong Q. Nguyen whose telephone number is (703) 308-4814. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew A Dunn can be reached on (703) 305-0024. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0956.



Thong Q. Nguyen
Primary Examiner
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